

US CLAIMS

1. A polypeptide which possesses inhibitory activity against human leukocyte elastase, said polypeptide being obtainable from psoriatic scales of human skin and possessing one or more of the following characteristics:
  - a) a molecular weight of about 9kD (as determined by SDS-PAGE);
  - b) an isoelectronic point at about pH.9.7 (as determined by isoelectronic focusing);
  - c) inhibitory activity against porcine pancreatic elastase in addition to human leukocyte elastase;
  - d) no significant activity against trypsin, human cathepsin G, Alpha-chymotrypsin and plasmin;or a fragment thereof possessing inhibitory activity against human leukocyte elastase.
2. A polypeptide as claimed in claim 1 which comprises an amino acid sequence selected from:
  - a) -Ala-Gln-Glu-Pro-Val-Lys-Gly-Pro-
  - b) -Ala-Gln-Glu-Pro-Val-Lys-Gly-Pro-Val-Ser-Thr-Lys-Pro-Gly-Ser-Cys-Pro-Ile-Ile-Leu-
  - c) -Ala-Gln-Glu-Pro-Val-Lys-Gly-Pro-Val-Ser-Thr-Lys-Pro-Gly-Ser-Cys
  - d) -Ala-Gln-Glu-Pro-Val-Lys-Gly-Pro-Val-Ser-Thr-Lys-Pro-Gly-Ser-Cys-Pro-Ile-Ile-Leu-Ile-Arg-Cys-Ala-Met-Leu-Asn-Pro-Pro-Asn-Arg-Cys-Leu-Lys-Asp-Thr; and
  - e) Lys-Gly-Pro-Val-Ser-Thr-Lys-Pro-Gly-Ser-Cys-Pro-Ile-Ile-Leu-Ile-Arg-Cys-Ala-Met-Leu-Asn-Pro-Pro-Asn-
3. A polypeptide as claimed in claim 1 which comprises an amino acid sequence selected from:

Asn-Gly-Gln-Asp-Pro-Val-Lys-Gly-Gln-Val-Ser-Val-Lys-Gly-Gln-Asp-Lys-Val-Lys-Ala-Gln-Glu-Pro-Val-Lys-Gly-Pro-;

Gly/Ala-Gln/Val-Asp-Lys-Val-Lys-Ala-Gln-Glu-Pro-Val-Lys-Gly-Pro-Val-Ser-Thr-Lys-Pro-Gly-Ser-Cys-Pro-Ile-Ile-Leu-;

Asp-Lys-Val-Lys-Ala-Gln-Glu-Pro-Val-Lys-Gly-Pro-Val-Ser-Thr-Lys-Pro-Gly-Ser-Cys;

Gly/Val-Lys-Ala-Gln-Glu-Pro-Val-Lys-Gly-Pro-Val-Ser-Thr-Lys-Pro-Gly-Ser-Cys-Pro-Ile-Ile-Leu-Ile-Arg-Cys-Ala-Met-Leu-Asn-Pro-Pro-Asn-Arg-Cys-Leu-Lys-Asp-Thr; and  
the sequence of formula I (set out hereinafter).

4. A polypeptide having all or part of the primary structure of formula I

Ala-Gln-Glu-Pro-Val-Lys-Gly-Pro-Val-Ser-Thr-Lys-Pro-Gly-Ser-Cys-Pro-Ile-Ile-Leu-Ile-Arg-Cys-Ala-Met-Leu-Asn-Pro-Pro-Asn-Arg-Cys-Leu-Lys-Asp-Thr-Asp-Cys-Pro-Gly-Ile-Lys-Lys-Cys-Cys-Glu-Gly-Ser-Cys-Gly-Met-Ala-Cys-Phe-Val-Pro-Gln (Formula I)

and fragments thereof, which polypeptide or fragments possess inhibitory activity against human leukocyte elastase, and compounds capable of being modified in vivo or in vitro to said polypeptide or fragments.

5. A polypeptide as claimed in claim 4 which comprises all or part of the following primary structure and fragments thereof.

Lys-Gly-Pro-Val-Ser-Thr-Lys-Pro-Gly-Ser-Cys-Pro-Ile-Ile-Leu-Ile-Arg-Cys-Ala-Met-Leu-Asn-Pro-Pro-Asn-

which polypeptide or fragments possess inhibitory activity against human leukocyte elastase, and compounds capable of being modified in vivo or in vitro to said polypeptide or fragments.

6. A polypeptide as claimed in claim 4 which is preceded by one or more amino acid residues selected from

Asn-Gly-Gln-Asp-Pro-Val-Lys-Gly-Gln-Val-Ser-Val-Lys-Gly-Gln-Asp-Lys-Val-Lys-;

Gly/Ala-Gln/Val-Asp-Lys-Val-Lys-;

Asp-Lys-Val-Lys-; and

Gly/Val-Lys-.

7. A polypeptide fragment or analogue thereof as defined in any one of claims 1 or 4 as produced by recombinant DNA technology.



- GS35306/US  
21 MAY 90

GS35306/US

21 MAY 90